This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claims **1-38** (Canceled).

Claim **39**. (Currently Amended) A method of manufacturing an endoluminal stent capable of radially expanding from a first diameter to a second diameter, and having a plurality of first structural elements defining a longitudinal axis of the stent and a plurality of second structural elements interconnecting adjacent pairs of first structural elements and defining a circumferential axis of the stent, comprising the steps of:

a. vacuum depositing a stent-forming metal onto an unpatterned, exterior surface of a generally cylindrical substrate at a deposition rate that controls a formation of heterogeneities to form a generally tubular, unpatterned, substantially homogeneous metal film;
b. defining the plurality of first and second structural elements of the endoluminal stent in the unpatterned metal film; and
c. removing the endoluminal stent from the generally cylindrical substrate.

Claim **40**. (Previously presented) The method according to Claim **39**, further comprising a step of depositing a sacrificial material layer onto the substrate prior to step (a) and removing the sacrificial material layer in order to remove the endoluminal stent from the substrate in step (c).

Claim **41**. (Previously presented) The method according to Claim **39**, wherein step (a) is conducted by ion beam-assisted evaporative deposition.

Claim **42**. (Previously presented) The method according to Claim **39**, wherein step (a) is conducted by sputtering.

Claim **43**. (Previously presented) The method according to Claim **41**, wherein the ion beam-assisted evaporative deposition is conducted in the presence of an inert gas.

Claim **44**. (Previously presented) The method according to Claim **43**, wherein the inert gas is selected from the group consisting of argon, xenon, nitrogen and neon.

Claim 45. (Previously presented) The method according to Claim 39, wherein the deposition rate is no less than about 20 nm/sec.

Claim 46. (Currently amended) The method according to Claim 39, wherein during the deposition of the ~~device-forming~~ stent-forming metal, the substrate is rotated.

Claim 47. (Currently Amended) A method of manufacturing an endoluminal stent capable of radially expanding from a first diameter to a second diameter, and having a plurality of first structural elements defining a longitudinal axis of the stent and a plurality of second structural elements interconnecting adjacent pairs of first structural elements and defining a circumferential axis of the stent, comprising the steps of:

a. vacuum depositing nickel and titanium onto an exterior surface of a generally cylindrical substrate to form a generally tubular, substantially homogeneous film of nickel-titanium having no less than about 51.5 atomic percent nickel; and
b. removing the endoluminal stent from the generally cylindrical substrate.

Claim 48. (Previously presented) The method according to Claim 47, wherein the generally tubular film of nickel-titanium has a composition of between about 51.5 and about 55.0 atomic percent nickel.

Claim 49. (Previously presented) The method according to Claim 47, wherein during the deposition of the nickel and titanium, the substrate is rotated.

Claim 50. (Previously presented) The method according to Claim 47, wherein a source of the nickel and the titanium to be deposited is a nickel-titanium alloy.

Claim 51. (Previously presented) The method according to Claim 47, wherein a source of the nickel and the titanium to be deposited is a binary nickel-titanium alloy.

Claim 52. (Previously presented) The method according to Claim 47, further comprising, prior to step (a), a step of imparting a pattern defining the first and second structural elements onto the exterior surface of the substrate, and wherein the pattern is transferred to the tubular film of nickel-titanium during step (a).

Claim 53. (Previously presented) The method according to Claim 47, further comprising a step of imparting a pattern defining the first and second structural elements onto the tubular film of nickel-titanium after step (a).

Claim 54. (Currently Amended) A method of manufacturing an endoluminal stent capable of radially expanding from a first diameter to a second diameter, and having a plurality of first structural elements defining a longitudinal axis of the stent and a plurality of second structural elements interconnecting adjacent pairs of first structural elements and defining a circumferential axis of the stent, comprising the steps of:

a. vacuum depositing nickel and titanium onto an unpatterned, exterior surface of a generally cylindrical substrate at a deposition rate that controls a formation of heterogeneities to form a generally tubular, unpatterned, substantially homogeneous film of nickel-titanium having no less than about 51.5 atomic percent nickel;
b. defining the plurality of first and second structural elements of the endoluminal stent in the unpatterned film of nickel-titanium; and
c. removing the endoluminal stent from the generally cylindrical substrate.

Claim 55. (Previously presented) The method according to Claim 54, further comprising a step of depositing a sacrificial material layer onto the substrate prior to step (a), and wherein the sacrificial material layer is removed in order to remove the endoluminal stent from the substrate in step (c).

Claim 56. (Previously presented) The method according to Claim 54, wherein step (a) is conducted by a method selected from ion beam-assisted evaporative deposition and sputtering.

Claim 57. (Previously presented) The method according to Claim 56, wherein step (a) is conducted in the presence of an inert gas selected from the group consisting of argon, xenon, nitrogen and neon.

Claim 58. (Previously presented) The method according to Claim 54, wherein the deposition rate is no less than about 20 nm/sec.

Claim **59**. (Currently Amended) A method of manufacturing an implantable medical device capable of radially expanding from a first diameter to a second diameter, and having a plurality of first structural elements defining a longitudinal axis of the device and a plurality of second structural elements interconnecting adjacent pairs of first structural elements and defining a circumferential axis of the device, comprising the steps of:

a. vacuum depositing a device-forming metal onto an exterior surface of a substrate under a condition that controls a formation of heterogeneities to form a substantially homogeneous metal film;
b. removing the implantable medical device from the substrate.

Claim **60**. (Previously presented) The method according to Claim **59**, further comprising, prior to step (a), a step of imparting a pattern defining the first and second structural elements onto the exterior surface of the substrate, and wherein the pattern is transferred to the metal film during step (a).

Claim **61**. (Previously presented) The method according to Claim **59**, further comprising a step of imparting a pattern defining the first and second structural elements onto the metal film after step (a).

Claim **62**. (Previously presented) The method according to Claim **59**, wherein the substrate is a cylinder, the substrate is rotated during step (a), and control of heterogeneities further comprises controlling at least one of grain size, grain phase, grain material composition, material composition and surface topography during vacuum deposition.

Claim **63**. (Previously presented) The method according to Claim **62**, further comprising controlling the deposition rate during step (a).

Claim **64**. (Previously presented) The method according to Claim **59**, wherein control of heterogeneities further comprises the step of defining polar and non-polar binding sites for binding blood plasma proteins.

Claim 65. (Previously presented) The method according to Claim 59, wherein control of heterogeneities further comprises controlling at least one of grain size, grain phase, grain material composition, material composition and surface topography during vacuum deposition.

Claim 66. (Previously presented) The method according to Claim 59, wherein the metal film comprises no less than about 51.5 atomic percent nickel.